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DR-359
October 1968

AD

METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV, SR-072
(4 September 1968)

BY

JOHN M. SHARPE

ATMOSPHERIC SCIENCES RESEARCH OFFICE
WHITE SANDS MISSILE RANGE, NEW MEXICO

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METEOROLOGICAL DATA REPORT

NIKE-HYDAC ST7, SR-072
(4 September 1968)

By

John M. Sharpe

DR-359

October 1968

DA Task 1T665702D127-02

ATMOSPHERIC SCIENCES RESEARCH OFFICE
WHITE SANDS MISSILE RANGE, NEW MEXICO

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ABSTRACT

Meteorological data gathered for the launching of Nike-HyJac STV, SR-072, are presented for the Space and Missile Systems Organization and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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INTRODUCTION

Nike-Hydac STV, SR-072, was launched from Launch Complex 33, L-361, White Sands Missile Range (WSMR), New Mexico, at 0805 hours MDT, 4 September 1968.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Technical Area, Atmospheric Sciences Research Office, WSMR, New Mexico. The Ballistics Meteorologists for this firing were John M. Sharpe and Harold M. Richart.

DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of five Aerovanes mounted on a 200-foot tower and cabled to component wind indicators.

From 216 to 4,000 feet above the surface, wind data were obtained from T-9 radar tracked balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,000 to 100,000 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic zone were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and ballistic factors as a function of altitude were provided by Atmospheric Sciences Research Office and are the basis for data appearing in Table I.

PAYLOAD		210	Pounds
CORIOLIS DISPLACEMENT	WEST	5.0	Miles
SECOND-STAGE IGNITION	TIME	20.0	Seconds
	ALTITUDE	35,767	Feet MSL
PEAK	TIME	236	Seconds
	ALTITUDE	715,900	Feet MSL
UNIT WIND EFFECT	HEAD	2.1575	Miles/MPH
	CROSS	2.2444	Miles/MPH
	TAIL	2.1672	Miles/MPH
TOWER TILT EFFECT		14.53	Miles/Degree

TABLE I. THEORETICAL HOCKET PERFORMANCE VALUES
NIKE-HYDAC STV, SR-072

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
11- 66	.126
66- 108	.084
108- 148	.053
148- 184	.041
184- 216	.026
216- 300	.062
300- 400	.058
400- 600	.072
600- 800	.058
800-1000	.039

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
1000- 1400	.066
1400- 2000	.066
2000- 2500	.035
2500- 3000	.028
3000- 3500	.014
3500- 4000	.005
4000- 4160	-.003
4160- 9000	-.014
9000-15000	-.017
15000-21000	-.016

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
21000-26000	-.013
26000-31767	-.016
31767-36000	.131
36000-41000	.057
41000-46000	.026
46000-51000	.015
51000-56000	.010
56000-61000	.006
61000-66000	.004
66000-73331	.001

TABLE II. BALLISTIC FACTORS
NIKE-HYDAC STV, SR-072

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR									
	1 0630 MDT		2 0700 MDT		3 0715 MDT		4 0730 MDT		5 0740 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	0.0	0.0	1.0S	2.0E	0.5S	0.0	0.0	1.0E	0.0	1.0E
2	1.5S	0.5E	3.5	1.0	1.0	0.0	3.0S	1.5	2.5S	1.0
3	3.0	1.0	3.5	1.0	0.0	0.0	3.5	2.0	3.5	1.5
4	2.0	0.0	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5
5	2.0	0.5W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AERO- VANE NO. *	MEAN WIND COMPONENTS IN MILES PER HOUR							
	6 0745 MDT		7 0750 MDT		8 0805 MDT			
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
1	0.0	0.0	0.0	0.0	1.0N	2.5E		
2	0.0	0.0	0.0	0.0	0.0	3.0		
3	0.0	0.0	0.0	0.0	0.0	2.0		
4	2.0S	0.0	0.0	0.0	0.0	0.0		
5	0.0	0.0	0.0	0.0	0.0	0.0		

TABLE III. ANEMOMETER WIND SPEED AND DIRECTION
NIKE-HYDAC STV, SR-072

* Heights corresponding to Aerovane Numbers: 1 = 35 Feet 3 = 128 Feet 5 = 200 Feet
2 = 88 Feet 4 = 168 Feet

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	1 0600 MDT		2 0630 MDT		3 0700 MDT		4 0715 MDT		5 0730 MDT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
216- 300	1.0S	2.0W	0.5S	1.0W	1.0N	0.0	0.5N	0.0	0.5N	0.5W
300- 400	1.0	2.5	1.0N	3.0	2.5	0.0	1.5	1.5E	2.0	0.5E
400- 600	0.5	2.5	1.5	4.0	4.5	3.0E	6.0	3.5	6.0	2.0
600- 800	0.5N	3.0	1.5	4.0	4.5	4.0	6.5	3.5	9.0	1.5
800-1000	2.5	3.5	3.5	4.0	4.0	2.5	5.5	1.0	8.0	1.5
1000-1400	3.0	4.0	4.5	5.0	3.0	0.5	5.0	1.5	5.5	0.5
1400-2000	4.0	4.5	4.5	5.5	3.5	1.0W	4.0	1.5W	2.5	0.5
2000-2500	3.0	3.0	3.5	3.0	5.5	3.5	5.5	2.0	3.0	1.0W
2500-3000	2.0	0.5	3.5	1.5	6.0	2.0	4.0	1.5	3.0	0.0
3000-3500	6.0	1.0	5.0	1.0	5.5	1.5	4.5	0.5	4.5	0.5E
3500-4000	6.5	0.5E	5.0	1.0E	6.5	0.0	6.5	0.5E	7.0	1.5

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA
NIKE-HYDAC STV, SR-072

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR									
	6		7		8					
	0745 MDT		0750 MDT		0805 MDT					
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
216- 300	0.0	3.5W	0.5N	0.5W	2.0N	0.5E				
300- 400	0.5N	4.0	1.0	3.0	5.0	1.0				
400- 600	4.0	3.0	5.0	2.5E	7.0	3.5				
600- 800	7.0	1.5	7.5	3.5	8.5	2.5				
800-1000	8.0	0.5	7.0	1.5	7.5	0.5				
1000-1400	4.5	0.0	5.0	1.0W	4.0	2.5W				
1400-2000	2.5	0.5E	1.5	0.0	2.5	1.0				
2000-2500	4.0	1.5	3.5	0.5W	3.5	1.0				
2500-3000	4.5	0.0	3.5	0.5E	4.5	1.0E				
3000-3500	8.0	0.5W	5.0	0.5	8.5	1.0				
3500-4000	7.5	1.0	8.5	2.5	8.0	4.0				

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA (CONT)
NIKE-HYDAG STV, SR-072

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS					
	1 0515 MDT		2 0715 MDT			
	N-S	E-W	N-S	E-W	N-S	E-W
4000-4160	7.0N	1.0E	4.5N	2.5E		
4160-9000	6.0	1.0W	0.5	4.0W		
9000-15000	1.0	7.0	1.5S	9.0		
15000-21000	3.5	9.5	0.0	14.0		
21000-26000	7.0	19.5	7.5N	20.5		
26000-31767	11.0	30.0	11.5	32.0		
31767-36000	5.5	32.5	6.5	36.5		
36000-41000	12.0	33.0	7.5	41.5		
41000-46000	6.0	35.5	5.0	27.5		
46000-51000	4.0	22.5	3.5	20.5		
51000-56000	0.0	23.0	0.0	12.0		
56000-61000	2.0S	6.0	7.0S	8.5E		
61000-66000	8.5	7.0E	4.0	7.0		
66000-73331	0.0	13.0	1.0N	7.0		

TABLE V. RAWINSONDE-MEASURED WIND DATA
NIKE-HYDAC STV, SR-072

STATION ALTITUDE 3989.0 FEET MSL
4 SEPT. 68 0515 HRS MDT
ASCENSION NO. 717

SIGNIFICANT LEVEL DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VI

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
MILLIBARS	MSL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
877.0	3989.0	17.1	9.3	60.0
867.0	4316.0	25.8	16.2	55.0
843.0	5124.3	23.1	5.6	32.0
704.0	10182.9	12.2	0.9	46.0
619.0	13669.9	3.0	-4.0	60.0
604.0	14321.9	1.9	-17.6	22.0
438.0	22586.2	-14.2	-36.0	14.0
325.0	29769.6	-32.4	-49.9	16.0
197.0	40792.9	-57.1	0.	-0. **
157.0	45440.6	-64.8	0.	-0. **
124.0	50155.3	-67.6	0.	-0. **
113.0	51997.4	-68.1	0.	-0. **
106.0	53272.5	-65.4	0.	-0. **
95.0	55471.7	-65.4	0.	-0. **
88.0	57025.8	-60.7	0.	-0. **
80.0	58978.3	-61.7	0.	-0. **
72.0	61156.4	-56.9	0.	-0. **
60.0	64949.3	-59.1	0.	-0. **
47.0	70049.0	-55.4	0.	-0. **
36.0	75665.0	-55.6	0.	-0. **
6.2	114411.4	-35.7	0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSUMED FOR COMPUTATIONS.

STATION ALTITUDE 3989.0 FEET MSL

4 SEPT. 68

ASCENSION NO. 717

UPPER AIR DATA

0295003901

WHITE SANDS SITE

WSTM SITE COORDINATES

E 488,580 FEET

N 185,045 FEET

0515 HRS MDT

TABLE VII

GEGMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTIONS DEGREES(TN)	SPEED KNOTS	
3989.0	877.0	17.1	9.3	60.0	1047.4	665.0		0.	0.	1.000286
4000.0	876.7	17.4	9.6	59.8	1045.9	665.4		359.9	0.0	1.000286
4500.0	861.5	25.2	14.1	49.8	999.1	674.9		356.0	1.2	1.000291
5000.0	846.6	23.5	7.5	35.5	989.8	672.2		352.0	2.3	1.000265
5500.0	831.8	22.3	5.3	33.0	977.0	670.6		348.0	3.5	1.000256
6000.0	817.1	21.2	5.0	34.4	963.3	669.4		344.1	4.6	1.000253
6500.0	802.7	20.1	4.6	35.8	949.8	668.2		344.5	5.7	1.000249
7000.0	788.5	19.1	4.1	37.2	936.5	666.9		351.5	6.5	1.000245
7500.0	774.6	18.0	3.7	38.6	923.4	665.7		357.6	7.1	1.000241
8000.0	760.9	16.9	3.2	40.0	910.5	664.4		2.8	7.5	1.000238
8500.0	747.5	15.8	2.7	41.3	897.9	663.2		4.2	7.1	1.000234
9000.0	734.3	14.7	2.2	42.7	885.4	661.9		3.6	6.3	1.000230
9500.0	721.3	13.7	1.7	44.1	873.1	660.6		347.5	5.4	1.000226
10000.0	708.6	12.6	1.2	45.5	861.0	659.4		328.9	4.4	1.000223
10500.0	695.8	11.4	0.6	47.3	849.2	657.9		310.2	3.6	1.000219
11000.0	683.1	10.0	-0.1	49.3	837.6	656.4		291.4	2.9	1.000215
11500.0	670.6	8.7	-0.8	51.3	826.2	654.8		270.6	2.5	1.000212
12000.0	658.3	7.4	-1.5	53.3	815.0	653.2		248.2	2.5	1.000208
12500.0	646.3	6.1	-2.2	55.3	804.0	651.7		245.2	2.9	1.000204
13000.0	634.5	4.8	-3.0	57.3	793.1	650.1		245.3	4.2	1.000201
13500.0	622.9	3.4	-3.7	59.3	782.4	648.5		249.6	5.5	1.000197
14000.0	611.4	2.4	-9.6	40.8	771.5	647.0		255.0	6.4	1.000187
14500.0	599.8	1.6	-18.0	21.8	760.1	645.7		261.5	6.9	1.000177
15000.0	588.3	0.6	-19.1	21.3	748.1	644.5		269.0	7.2	1.000174
15500.0	577.0	-0.4	-20.2	20.9	736.4	643.3		277.1	7.8	1.000170
16000.0	565.8	-1.4	-21.3	20.4	724.9	642.2		285.5	8.5	1.000167
16500.0	555.0	-2.3	-22.4	19.9	713.5	641.0		293.8	9.4	1.000164
17000.0	544.3	-3.3	-23.5	19.4	702.3	639.8		299.4	10.4	1.000161
17500.0	533.8	-4.3	-24.6	18.9	691.3	638.6		304.4	11.3	1.000158
18000.0	523.5	-5.3	-25.7	18.4	680.5	637.5			12.1	1.000156

STATION ALTITUDE 3989.0 FEET MSL
4 SEPT. 68 0515 HRS MDT
ASCENSION NO. 717

UPPER AIR DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
18500.0	513.4	-6.2	-26.8	18.0	669.9	636.3	309.3	309.3	12.0	1.000153
19000.0	503.5	-7.2	-27.9	17.5	659.4	635.1	314.0	314.0	11.6	1.000150
19500.0	493.8	-8.2	-29.0	17.0	649.1	634.0	315.3	315.3	10.2	1.000148
20000.0	484.3	-9.2	-30.1	16.5	639.0	632.8	314.2	314.2	8.9	1.000145
20500.0	475.0	-10.1	-31.3	16.0	629.0	631.6	305.8	305.8	7.8	1.000143
21000.0	465.9	-11.1	-32.4	15.5	619.2	630.4	295.1	295.1	7.1	1.000140
21500.0	456.9	-12.1	-33.5	15.1	609.6	629.2	281.1	281.1	6.8	1.000138
22000.0	448.1	-13.1	-34.6	14.6	600.1	628.0	272.7	272.7	7.5	1.000135
22500.0	439.5	-14.0	-35.8	14.1	590.8	626.9	268.1	268.1	8.8	1.000133
23000.0	430.5	-15.2	-36.8	14.1	581.5	625.4	266.6	266.6	9.7	1.000131
23500.0	421.7	-16.5	-37.7	14.3	572.4	623.8	265.9	265.9	10.5	1.000129
24000.0	413.0	-17.8	-38.6	14.4	563.4	622.3	269.5	269.5	12.2	1.000127
24500.0	404.5	-19.0	-39.6	14.5	554.6	620.7	273.1	273.1	13.9	1.000125
25000.0	396.2	-20.3	-40.6	14.7	545.9	619.2	274.6	274.6	15.0	1.000123
25500.0	388.1	-21.6	-41.5	14.8	537.4	617.6	276.3	276.3	16.2	1.000121
26000.0	380.1	-22.8	-42.5	15.0	529.0	616.1	279.6	279.6	17.8	1.000119
26500.0	372.3	-24.1	-43.4	15.1	520.8	614.5	281.9	281.9	19.1	1.000117
27000.0	364.6	-25.4	-44.4	15.2	512.7	612.9	281.4	281.4	19.5	1.000115
27500.0	357.1	-26.6	-45.4	15.4	504.7	611.4	282.5	282.5	20.2	1.000113
28000.0	349.8	-27.9	-46.4	15.5	496.9	609.8	284.9	284.9	21.1	1.000111
28500.0	342.6	-29.2	-47.4	15.6	489.2	608.2	286.1	286.1	22.3	1.000109
29000.0	335.6	-30.5	-48.3	15.8	481.7	606.6	286.7	286.7	23.7	1.000108
29500.0	328.7	-31.7	-49.3	15.9	474.3	605.0	288.2	288.2	25.2	1.000106
30000.0	321.6	-32.9	-50.5	15.7**	466.4	603.5	289.6	289.6	26.7	1.000104
30500.0	314.4	-34.0	-51.8	14.9**	458.1	602.1	286.5	286.5	28.3	1.000102
31000.0	307.3	-35.2	-53.2	14.2**	449.9	600.7	284.0	284.0	29.6	1.000100
31500.0	300.4	-36.3	-54.5	13.5**	441.9	599.3	282.7	282.7	30.5	1.000099
32000.0	293.7	-37.4	-55.9	12.8**	434.0	597.9	281.3	281.3	31.5	1.000097
32500.0	287.1	-38.5	-57.3	12.0**	426.3	596.4	280.1	280.1	32.5	1.000095
33000.0	280.7	-39.6	-58.7	11.3**	418.7	595.0	281.6	281.6	32.4	1.000093

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
4 SEPT.68 0515 HRS MDT
ASCENSION NO. 717

UPPER AIR DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
33500.0	274.4	-40.8	-60.2	10.6**	411.3	593.6	282.6	282.6	32.3	1.000092
34000.0	268.2	-41.9	-61.6	9.9**	404.0	592.2	282.8	282.8	32.5	1.000090
34500.0	262.2	-43.0	-63.1	9.1**	396.9	590.7	283.3	283.3	32.4	1.000088
35000.0	256.3	-44.1	-64.6	8.4**	389.9	589.3	283.9	283.9	32.1	1.000087
35500.0	250.5	-45.2	-66.2	7.7**	383.0	587.8	283.5	283.5	32.5	1.000085
36000.0	244.9	-46.4	-67.8	7.0**	376.2	586.4	282.4	282.4	33.1	1.000084
36500.0	239.4	-47.5	-69.4	6.2**	369.6	584.9	281.2	281.2	33.5	1.000082
37000.0	234.0	-48.6	-71.2	5.5**	363.1	583.5	280.0	280.0	33.8	1.000081
37500.0	228.8	-49.7	-73.0	4.8**	356.8	582.0	278.6	278.6	34.1	1.000079
38000.0	223.6	-50.8	-74.9	4.1**	350.5	580.6	277.0	277.0	34.1	1.000078
38500.0	218.6	-52.0	-77.0	3.3**	344.4	579.1	275.5	275.5	34.1	1.000077
39000.0	213.7	-53.1	-79.4	2.6**	338.4	577.6	274.8	274.8	34.7	1.000075
39500.0	208.9	-54.2	-82.2	1.9**	332.4	576.2	274.2	274.2	35.4	1.000074
40000.0	204.2	-55.3	-85.8	1.2**	326.7	574.7	274.2	274.2	37.0	1.000073
40500.0	199.6	-56.4	-91.9	0.4**	321.0	573.2	274.3	274.3	38.7	1.000071
41000.0	195.0	-57.4	0.	-0. **	315.0	571.9	274.9	274.9	38.9	1.000070
41500.0	190.3	-58.3	0.	-0. **	308.6	570.8	275.9	275.9	38.3	1.000069
42000.0	185.7	-59.1	0.	-0. **	302.3	569.7	277.2	277.2	38.9	1.000067
42500.0	181.2	-59.9	0.	-0. **	296.2	568.6	279.0	279.0	41.1	1.000066
43000.0	176.9	-60.8	0.	-0. **	290.1	567.5	280.5	280.5	41.8	1.000065
43500.0	172.6	-61.6	0.	-0. **	284.3	566.4	281.5	281.5	38.7	1.000063
44000.0	168.4	-62.4	0.	-0. **	278.5	565.3	282.3	282.3	36.8	1.000062
44500.0	164.4	-63.2	0.	-0. **	272.8	564.1	282.7	282.7	39.7	1.000061
45000.0	160.4	-64.1	0.	-0. **	257.3	563.0	282.9	282.9	41.7	1.000060
45500.0	156.5	-64.8	0.	-0. **	251.8	562.0	282.5	282.5	39.4	1.000058
46000.0	152.7	-65.1	0.	-0. **	255.7	561.6	282.1	282.1	37.0	1.000057
46500.0	148.9	-65.4	0.	-0. **	249.7	561.2	282.0	282.0	37.6	1.000056
47000.0	145.2	-65.7	0.	-0. **	243.9	560.8	282.0	282.0	38.5	1.000054
47500.0	141.6	-66.0	0.	-0. **	238.2	560.4	280.9	280.9	38.1	1.000053
48000.0	138.1	-66.3	0.	-0. **	232.7	560.0	278.1	278.1	35.4	1.000052

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
4 SEPT.68 0515 HRS MDT
ASCENSION NO. 717

UPPER AIR DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
48500.0	134.7	-66.6	0.	-0. **	227.3	559.6		275.2	32.8	1.000051
49000.0	131.4	-66.9	0.	-0. **	222.0	559.2		272.0	31.3	1.000049
49500.0	128.1	-67.2	0.	-0. **	216.8	558.8		268.7	30.0	1.000048
50000.0	125.0	-67.5	0.	-0. **	211.7	558.4		266.3	28.7	1.000047
50500.0	121.9	-67.7	0.	-0. **	206.7	558.1		264.8	27.6	1.000046
51000.0	118.8	-67.8	0.	-0. **	201.6	557.9		263.7	26.6	1.000045
51500.0	115.9	-68.0	0.	-0. **	196.8	557.8		266.5	26.5	1.000044
52000.0	113.0	-68.1	0.	-0. **	192.0	557.6		269.2	26.5	1.000043
52500.0	110.2	-67.0	0.	-0. **	186.3	559.0		273.2	26.2	1.000041
53000.0	107.5	-66.0	0.	-0. **	180.7	560.5		277.6	25.8	1.000040
53500.0	104.8	-65.4	0.	-0. **	175.8	561.2		281.3	25.6	1.000039
54000.0	102.2	-65.4	0.	-0. **	171.4	561.2		283.4	25.8	1.000038
54500.0	99.7	-65.4	0.	-0. **	167.2	561.2		285.6	26.0	1.000037
55000.0	97.3	-65.4	0.	-0. **	163.1	561.2		286.8	25.7	1.000036
55500.0	94.9	-65.3	0.	-0. **	159.0	561.3		288.0	25.4	1.000035
56000.0	92.6	-63.8	0.	-0. **	154.0	563.4		286.1	25.3	1.000034
56500.0	90.3	-62.3	0.	-0. **	149.2	565.4		279.9	25.3	1.000033
57000.0	88.1	-60.8	0.	-0. **	144.6	567.4		273.8	25.3	1.000032
57500.0	86.0	-60.9	0.	-0. **	141.2	567.2		267.9	25.5	1.000031
58000.0	83.9	-61.2	0.	-0. **	137.9	566.9		262.0	25.8	1.000031
58500.0	81.9	-61.5	0.	-0. **	134.8	566.5		257.5	26.0	1.000030
59000.0	79.9	-61.7	0.	-0. **	131.7	566.3		255.3	26.0	1.000029
59500.0	78.0	-60.6	0.	-0. **	127.8	567.7		253.1	25.8	1.000028
60000.0	76.1	-59.4	0.	-0. **	124.1	569.2		253.0	19.8	1.000028
60500.0	74.3	-58.3	0.	-0. **	120.6	570.7		252.8	13.8	1.000027
61000.0	72.5	-57.2	0.	-0. **	117.1	572.1		269.2	9.5	1.000026
61500.0	70.8	-57.1	0.	-0. **	114.2	572.3		290.3	5.7	1.000025
62000.0	69.1	-57.4	0.	-0. **	111.6	572.0		323.6	3.9	1.000025
62500.0	67.5	-57.7	0.	-0. **	109.1	571.6		8.7	4.0	1.000024
63000.0	65.9	-58.0	0.	-0. **	106.7	571.2		38.9	3.9	1.000024

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UPPER AIR DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	64.3	-58.3	0.	-0. **	104.3	570.8		347.8	2.3	1.000023
64000.0	62.8	-58.5	0.	-0. **	102.0	570.4		296.7	0.8	1.000023
64500.0	61.3	-58.8	0.	-0. **	99.7	570.0		257.7	2.2	1.000022
65000.0	59.9	-59.1	0.	-0. **	97.4	569.7		224.4	5.0	1.000022
65500.0	58.4	-58.7	0.	-0. **	94.9	570.2		194.7	7.6	1.000021
66000.0	57.1	-58.3	0.	-0. **	92.5	570.7		182.6	9.9	1.000021
66500.0	55.7	-58.0	0.	-0. **	90.2	571.2		170.4	12.1	1.000020
67000.0	54.4	-57.6	0.	-0. **	87.9	571.7		160.2	12.5	1.000020
67500.0	53.1	-57.2	0.	-0. **	85.7	572.1		150.9	11.8	1.000019
68000.0	51.8	-56.9	0.	-0. **	83.5	572.6		140.6	11.5	1.000019
68500.0	50.6	-56.5	0.	-0. **	81.4	573.1		125.4	12.6	1.000018
69000.0	49.4	-56.2	0.	-0. **	79.4	573.6		110.2	13.7	1.000018
69500.0	48.3	-55.8	0.	-0. **	77.3	574.1		104.4	14.8	1.000017
70000.0	47.1	-55.4	0.	-0. **	75.4	574.5		100.7	16.0	1.000017
70500.0	46.0	-55.4	0.	-0. **	73.6	574.6		101.0	16.9	1.000016
71000.0	44.9	-55.4	0.	-0. **	71.9	574.5		105.4	17.4	1.000016
71500.0	43.9	-55.5	0.	-0. **	70.2	574.5		108.5	17.9	1.000016
72000.0	42.8	-55.5	0.	-0. **	68.6	574.5		106.0	18.1	1.000015
72500.0	41.8	-55.5	0.	-0. **	67.0	574.5		103.4	18.3	1.000015
73000.0	40.9	-55.5	0.	-0. **	65.4	574.4		98.2	16.9	1.000015
73500.0	39.9	-55.5	0.	-0. **	63.9	574.4		92.5	15.3	1.000014
74000.0	39.0	-55.5	0.	-0. **	62.4	574.4		86.8	13.9	1.000014
74500.0	38.0	-55.6	0.	-0. **	60.9	574.4		81.3	12.9	1.000014
75000.0	37.2	-55.6	0.	-0. **	59.5	574.3		75.7	12.0	1.000013
75500.0	36.3	-55.6	0.	-0. **	58.1	574.3		72.1	11.1	1.000013
76000.0	35.5	-55.4	0.	-0. **	56.7	574.5		68.7	10.4	1.000013
76500.0	34.7	-55.2	0.	-0. **	55.4	574.9		65.5	9.7	1.000012
77000.0	33.9	-54.9	0.	-0. **	54.1	575.2		63.6	10.2	1.000012
77500.0	33.1	-54.7	0.	-0. **	52.8	575.6		61.6	10.7	1.000012
78000.0	32.4	-54.4	0.	-0. **	51.6	575.9		60.9	11.6	1.000011

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UPPER AIR DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
78500.0	31.7	-54.1	0.	-0.	50.4	576.2	64.0	64.0	13.6	1.000011
79000.0	30.9	-53.9	0.	-0.	49.2	576.6	67.1	67.1	15.6	1.000011
79500.0	30.2	-53.6	0.	-0.	48.0	576.9	69.2	69.2	16.7	1.000011
80000.0	29.6	-53.4	0.	-0.	46.9	577.2	69.9	69.9	16.5	1.000010
80500.0	28.9	-53.1	0.	-0.	45.8	577.6	70.6	70.6	16.3	1.000010
81000.0	28.3	-52.9	0.	-0.	44.7	577.9	73.8	73.8	16.4	1.000010
81500.0	27.6	-52.6	0.	-0.	43.6	578.3	78.9	78.9	16.6	1.000010
82000.0	27.0	-52.3	0.	-0.	42.6	578.6	84.0	84.0	16.9	1.000009
82500.0	26.4	-52.1	0.	-0.	41.6	578.9	85.9	85.9	16.2	1.000009
83000.0	25.8	-51.8	0.	-0.	40.6	579.3	86.5	86.5	15.1	1.000009
83500.0	25.2	-51.6	0.	-0.	39.7	579.6	87.2	87.2	14.0	1.000009
84000.0	24.7	-51.3	0.	-0.	38.7	579.9	89.8	89.8	13.5	1.000009
84500.0	24.1	-51.1	0.	-0.	37.8	580.3	92.8	92.8	13.1	1.000008
85000.0	23.6	-50.8	0.	-0.	36.9	580.6	95.8	95.8	12.6	1.000008
85500.0	23.0	-50.5	0.	-0.	36.1	580.9	94.1	94.1	12.9	1.000008
86000.0	22.5	-50.3	0.	-0.	35.2	581.3	91.5	91.5	13.4	1.000008
86500.0	22.0	-50.0	0.	-0.	34.4	581.6	88.8	88.8	13.8	1.000008
87000.0	21.5	-49.8	0.	-0.	33.6	582.0	87.5	87.5	14.2	1.000007
87500.0	21.0	-49.5	0.	-0.	32.8	582.3	86.6	86.6	14.6	1.000007
88000.0	20.6	-49.3	0.	-0.	32.0	582.6	85.8	85.8	14.9	1.000007
88500.0	20.1	-49.0	0.	-0.	31.2	583.0	85.2	85.2	16.6	1.000007
89000.0	19.7	-48.8	0.	-0.	30.5	583.3	84.8	84.8	18.8	1.000007
89500.0	19.2	-48.5	0.	-0.	29.8	583.6	84.3	84.3	21.1	1.000007
90000.0	18.8	-48.2	0.	-0.	29.1	584.0	82.8	82.8	22.5	1.000006
90500.0	18.4	-48.0	0.	-0.	28.4	584.3	80.7	80.7	23.5	1.000006
91000.0	17.9	-47.7	0.	-0.	27.7	584.6	78.5	78.5	24.4	1.000006
91500.0	17.5	-47.5	0.	-0.	27.1	585.0	77.3	77.3	25.4	1.000006
92000.0	17.1	-47.2	0.	-0.	26.4	585.3	77.0	77.0	26.6	1.000006
92500.0	16.8	-47.0	0.	-0.	25.8	585.6	76.7	76.7	27.7	1.000006
93000.0	16.4	-46.7	0.	-0.	25.2	586.0	76.0	76.0	28.3	1.000006

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UPPER AIR DATA
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
93500.0	16.0	-46.4	0.	-0. **	24.6	586.3	74.7	28.1	1.000005	
94000.0	15.7	-46.2	0.	-0. **	24.0	586.6	73.4	27.8	1.000005	
94500.0	15.3	-45.9	0.	-0. **	23.5	586.9	75.8	28.2	1.000005	
95000.0	15.0	-45.7	0.	-0. **	22.9	587.3	85.2	29.8	1.000005	
95500.0	14.6	-45.4	0.	-0. **	22.4	587.6	94.7	31.5	1.000005	
96000.0	14.3	-45.2	0.	-0. **	21.9	587.9	100.7	31.8	1.000005	
96500.0	14.0	-44.9	0.	-0. **	21.3	588.3	96.9	28.3	1.000005	
97000.0	13.7	-44.6	0.	-0. **	20.8	588.6	93.0	24.8	1.000005	
97500.0	13.4	-44.4	0.	-0. **	20.3	588.9	90.7	22.4	1.000005	
98000.0	13.1	-44.1	0.	-0. **	19.9	589.3	96.2	25.1	1.000004	
98500.0	12.8	-43.9	0.	-0. **	19.4	589.6	101.6	27.9	1.000004	
99000.0	12.5	-43.6	0.	-0. **	18.9	589.9	105.5	30.1	1.000004	
99500.0	12.2	-43.4	0.	-0. **	18.5	590.3	94.3	27.4	1.000004	
100000.0	11.9	-43.1	0.	-0. **	18.1	590.6	83.1	24.8	1.000004	
100500.0	11.7	-42.8	0.	-0. **	17.6	590.9	71.9	22.1	1.000004	
101000.0	11.4	-42.6	0.	-0. **	17.2	591.2	75.7	23.4	1.000004	
101500.0	11.1	-42.3	0.	-0. **	16.8	591.6	81.4	25.3	1.000004	
102000.0	10.9	-42.1	0.	-0. **	16.4	591.9	87.0	27.1	1.000004	
102500.0	10.6	-41.8	0.	-0. **	16.0	592.2	89.5	28.1	1.000004	
103000.0	10.4	-41.6	0.	-0. **	15.7	592.6	84.1	26.8	1.000003	
103500.0	10.2	-41.3	0.	-0. **	15.3	592.9	78.7	25.5	1.000003	
104000.0	9.9	-41.0	0.	-0. **	14.9	593.2	73.3	24.1	1.000003	
104500.0	9.7	-40.8	0.	-0. **	14.6	593.5	70.6	23.8	1.000003	
105000.0	9.5	-40.5	0.	-0. **	14.2	593.9	72.1	24.9	1.000003	
105500.0	9.3	-40.3	0.	-0. **	13.9	594.2	73.7	26.1	1.000003	
106000.0	9.1	-40.0	0.	-0. **	13.6	594.5	75.2	27.2	1.000003	
106500.0	8.9	-39.8	0.	-0. **	13.3	594.9	76.2	27.9	1.000003	
107000.0	8.7	-39.5	0.	-0. **	12.9	595.2	76.8	28.1	1.000003	
107500.0	8.5	-39.2	0.	-0. **	12.6	595.5	77.4	28.4	1.000003	
108000.0	8.3	-39.0	0.	-0. **	12.3	595.8	78.0	28.6	1.000003	

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WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VII (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
108500.0	8.1	-38.7	0.	-0. **	12.1	596.2		79.9	29.1	1.000003
109000.0	7.9	-38.5	0.	-0. **	11.8	596.5		82.6	29.9	1.000003
109500.0	7.7	-38.2	0.	-0. **	11.5	596.8		85.2	30.6	1.000003
110000.0	7.6	-38.0	0.	-0. **	11.2	597.1		87.9	31.3	1.000002
110500.0	7.4	-37.7	0.	-0. **	11.0	597.5				1.000002
111000.0	7.2	-37.5	0.	-0. **	10.7	597.8				1.000002
111500.0	7.1	-37.2	0.	-0. **	10.4	598.1				1.000002
112000.0	6.9	-36.9	0.	-0. **	10.2	598.4				1.000002
112500.0	6.8	-36.7	0.	-0. **	10.0	598.8				1.000002
113000.0	6.6	-36.4	0.	-0. **	9.7	599.1				1.000002
113500.0	6.5	-36.2	0.	-0. **	9.5	599.4				1.000002
114000.0	6.3	-35.9	0.	-0. **	9.3	599.7				1.000002

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
4 SEPT. 68 0515 HRS MDT
ASCENSION NO. 717

MANDATORY LEVELS
0295003901
WHITE SANDS SITE

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

TABLE VIII

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4886.	23.9	9.1	39.	352.9	2.1
800.0	6621.	19.9	4.5	36.	346.1	5.9
750.0	8424.	16.0	2.8	41.	4.2	7.2
700.0	10334.	11.8	0.8	47.	334.9	3.9
650.0	12351.	6.5	-2.0	55.	254.6	2.8
600.0	14486.	1.6	-18.0	22.	255.0	6.9
550.0	16767.	-2.8	-22.9	20.	290.2	9.9
500.0	19223.	-7.6	-28.3	17.	314.6	10.9
450.0	21887.	-12.8	-34.4	15.	273.5	7.2
400.0	24796.	-19.7	-40.1	15.	274.1	14.6
350.0	27996.	-27.9	-46.3	16.	285.1	21.2
300.0	31564.	-36.3	-54.6	13.**	282.5	30.7
250.0	35634.	-45.3	-66.3	8.**	283.0	32.7
200.0	40401.	-56.4	-91.2	0.**	274.3	38.6
175.0	43151.	-61.1	0.	-0.**	281.0	40.3
150.0	46256.	-65.3	0.	-0.**	282.0	37.3
125.0	49878.	-67.5	0.	-0.**	266.3	28.7
100.0	54301.	-65.4	0.	-0.**	285.3	25.9
80.0	58812.	-61.7	0.	-0.**	255.4	26.0
70.0	61562.	-57.2	0.	-0.**	300.6	3.8
60.0	64746.	-59.1	0.	-0.**	227.9	4.7
50.0	68521.	-56.3	0.	-0.**	117.9	13.1
40.0	73187.	-55.5	0.	-0.**	93.1	15.4
30.0	79220.	-53.5	0.	-0.**	69.3	16.7
25.0	83085.	-51.5	0.	-0.**	87.1	14.2
20.0	87866.	-49.0	0.	-0.**	85.4	15.4
15.0	94109.	-45.7	0.	-0.**	76.4	28.3
10.0	103061.	-41.1	0.	-0.**	77.9	25.3
7.0	111084.	-37.1	0.	-0.**		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSL
4 SEPT.68 0715 HRS NDT
ASCENSION NO. 114

SIGNIFICANT LEVEL DATA
0312003905
S M R SITE

WSTM SITE COORDINATES
E 472,257 FEET
N 214,426 FEET

TABLE IX

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
MILLIBARS	MSL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
877.9	3999.0	16.0	9.5	65.0
868.0	4319.3	22.2	7.3	38.0
866.0	4385.1	22.7	7.7	38.0
689.0	10768.9	9.5	-2.5	43.0
643.0	12635.1	4.0	-3.5	58.0
609.0	14080.2	1.5	-21.0	17.0
456.0	21539.4	-12.4	-33.8	15.0
400.0	24781.4	-20.3	-40.3	15.0
326.0	29639.8	-33.1	-49.9	17.0
220.0	38356.1	-53.4	0.	-0. **
186.0	41859.6	-60.3	0.	-0. **
163.0	44548.9	-63.8	0.	-0. **
119.0	50850.0	-67.6	0.	-0. **
111.0	52237.5	-65.9	0.	-0. **
108.0	52789.8	-63.1	0.	-0. **
100.0	54349.0	-63.8	0.	-0. **
93.0	55825.5	-61.4	0.	-0. **
79.0	59176.9	-59.8	0.	-0. **
73.0	60820.6	-56.0	0.	-0. **
56.0	66354.7	-58.5	0.	-0. **
53.0	67509.0	-54.4	0.	-0. **
47.0	70040.7	-56.3	0.	-0. **
25.0	83529.6	-48.4	0.	-0. **
13.5	97110.0	-43.0	0.	-0. **
10.0	103855.1	-40.0	0.	-0. **
8.8	106757.4	-38.6	0.	-0. **

** RELATIVE HUMIDITY NOT SUPPLIED. ZERO VALUE ASSJMED FOR COMPUTATIONS.

STATION ALTITUDE 3999.0 FEET MSL

4 SEPT. 68

ASCENSION NO. 114

UPPER AIR DATA

0312003905

S M R SITE

WSTM SITE COORDINATES

E 472.257 FEET

N 214.426 FEET

TABLE X

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
3999.0	877.9	16.0	9.5	65.0	1052.5	663.8	330.0	4.1	1.000288
4000.0	877.9	16.0	9.5	64.9	1052.4	663.8	330.0	4.1	1.000288
4500.0	862.4	22.5	7.5	38.1	1011.9	671.0	331.3	3.9	1.000270
5000.0	847.1	21.4	6.8	38.5	997.6	669.8	332.6	3.6	1.000265
5500.0	832.1	20.4	6.0	38.9	983.5	668.5	333.9	3.4	1.000260
6000.0	817.3	19.4	5.2	39.3	959.6	667.3	335.2	3.2	1.000255
6500.0	802.8	18.3	4.4	39.7	955.9	666.1	352.9	3.3	1.000250
7000.0	788.6	17.3	3.6	40.0	942.4	664.9	13.2	3.4	1.000246
7500.0	774.6	16.3	2.8	40.4	929.1	663.6	18.1	3.9	1.000241
8000.0	760.8	15.2	2.0	40.8	916.0	662.4	22.2	4.0	1.000236
8500.0	747.3	14.2	1.2	41.2	903.1	661.2	23.5	3.2	1.000232
9000.0	734.1	13.2	0.4	41.6	890.4	659.9	9.1	2.4	1.000227
9500.0	721.0	12.1	-0.4	42.0	877.9	658.7	327.8	1.8	1.000223
10000.0	708.2	11.1	-1.2	42.4	865.6	657.4	295.8	1.6	1.000219
10500.0	695.7	10.1	-2.0	42.8	853.4	656.2	277.8	2.1	1.000215
11000.0	683.1	8.8	-2.5	44.9	841.7	654.8	260.1	2.5	1.000212
11500.0	670.6	7.3	-2.7	48.9	830.6	653.1	242.9	2.9	1.000209
12000.0	658.3	5.9	-3.0	52.9	819.7	651.3	230.5	3.4	1.000206
12500.0	646.2	4.4	-3.4	56.9	809.0	649.6	224.7	4.3	1.000204
13000.0	634.2	3.4	-6.7	47.6	797.4	648.2	223.4	5.5	1.000196
13500.0	622.4	2.5	-12.0	33.5	785.6	647.0	226.8	6.9	1.000187
14000.0	610.8	1.6	-19.4	19.3	773.9	645.7	231.0	7.7	1.000179
14500.0	599.2	0.7	-21.7	16.9	751.7	644.6	235.7	8.1	1.000175
15000.0	587.7	-0.2	-22.6	16.8	749.7	643.5	245.0	8.3	1.000172
15500.0	576.4	-1.1	-23.4	16.6	737.8	642.4	256.1	8.4	1.000169
16000.0	565.3	-2.1	-24.3	16.5	726.2	641.3	263.8	8.2	1.000166
16500.0	554.4	-3.0	-25.1	16.4	714.7	640.2	271.0	7.9	1.000163
17000.0	543.8	-3.9	-26.0	16.2	703.4	639.0	281.9	8.7	1.000161
17500.0	533.3	-4.9	-26.9	16.1	692.3	637.9	292.6	9.5	1.000158
18000.0	523.1	-5.8	-27.7	15.9	681.4	636.8	297.0	10.2	1.000155

STATION ALTITUDE 3999.0 FEET MSL

4 SEPT. 68

ASCENSION NO. 114

UPPER AIR DATA

0312003905

S M R SITE

WSTM SITE COORDINATES

E 472.257 FEET

N 214.426 FEET

0715 HRS MDT

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	513.1	-6.7	-28.6	15.8	670.7	635.7	300.7	300.7	10.8	1.000152
19000.0	503.2	-7.7	-29.4	15.7	660.1	634.6	297.9	297.9	11.6	1.000150
19500.0	493.5	-8.6	-30.3	15.5	649.7	633.4	294.5	294.5	12.3	1.000147
20000.0	484.1	-9.5	-31.2	15.4	639.5	632.3	286.8	286.8	12.7	1.000145
20500.0	474.8	-10.5	-32.0	15.3	629.5	631.2	279.3	279.3	13.1	1.000142
21000.0	465.6	-11.4	-32.9	15.1	619.6	630.1	273.3	273.3	13.3	1.000140
21500.0	456.7	-12.3	-33.7	15.0	609.9	628.9	267.8	267.8	13.5	1.000138
22000.0	447.6	-13.5	-34.7	15.0	600.5	627.5	266.1	266.1	13.9	1.000136
22500.0	438.6	-14.7	-35.7	15.0	591.3	626.0	264.8	264.8	14.4	1.000133
23000.0	429.9	-16.0	-36.7	15.0	582.2	624.5	266.7	266.7	15.1	1.000131
23500.0	421.3	-17.2	-37.7	15.0	573.3	623.0	268.5	268.5	15.9	1.000129
24000.0	412.8	-18.4	-38.8	15.0	564.5	621.5	270.3	270.3	16.8	1.000127
24500.0	404.6	-19.6	-39.8	15.0	555.9	620.1	272.0	272.0	17.7	1.000125
25000.0	396.3	-20.9	-40.8	15.1	547.3	618.5	275.4	275.4	18.7	1.000123
25500.0	388.1	-22.2	-41.7	15.3	538.7	616.9	278.7	278.7	19.7	1.000121
26000.0	380.0	-23.5	-42.7	15.5	530.3	615.3	280.5	280.5	19.9	1.000119
26500.0	372.1	-24.8	-43.7	15.7	522.0	613.6	282.2	282.2	20.1	1.000117
27000.0	364.3	-26.1	-44.7	15.9	513.8	612.0	283.5	283.5	20.4	1.000115
27500.0	356.7	-27.5	-45.6	16.1	505.8	610.4	284.9	284.9	20.8	1.000113
28000.0	349.3	-28.8	-46.6	16.3	498.0	608.7	286.6	286.6	21.5	1.000111
28500.0	342.0	-30.1	-47.6	16.5	490.3	607.1	288.1	288.1	22.4	1.000110
29000.0	334.9	-31.4	-48.6	16.7	482.7	605.4	288.8	288.8	23.9	1.000108
29500.0	327.9	-32.7	-49.6	16.9	475.2	603.8	289.3	289.3	25.5	1.000106
30000.0	320.7	-33.9	-51.0	16.3**	467.1	602.2	288.7	288.7	27.4	1.000104
30500.0	313.6	-35.1	-52.5	15.3**	459.0	600.8	288.1	288.1	29.2	1.000103
31000.0	306.6	-36.3	-54.0	14.3**	450.9	599.3	286.9	286.9	30.8	1.000101
31500.0	299.8	-37.4	-55.6	13.4**	443.1	597.8	286.0	286.0	32.2	1.000099
32000.0	293.1	-38.6	-57.2	12.4**	435.3	596.3	285.6	285.6	33.0	1.000097
32500.0	286.5	-39.8	-58.8	11.4**	427.7	594.9	285.7	285.7	33.8	1.000095
33000.0	280.1	-40.9	-60.4	10.4**	420.3	593.4	287.4	287.4	34.4	1.000094

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSI

4 SEPT. 68

ASCENSION NO. 114

UPPER AIR DATA

0312003905

S M R SITE

WSTM SITE COORDINATES

E 472.257 FEET

N 214.426 FEET

0715 HRS MDT

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	273.9	-42.1	-62.1	9.5**	413.0	591.9	289.1	35.0	1.000092
34000.0	267.8	-43.3	-63.9	8.5**	405.8	590.4	289.7	34.6	1.000090
34500.0	261.8	-44.4	-65.7	7.5**	398.8	588.9	290.4	34.3	1.000089
35000.0	256.0	-45.6	-67.6	6.5**	391.9	587.4	289.7	34.0	1.000087
35500.0	250.3	-46.7	-69.6	5.6**	385.1	585.9	288.9	33.7	1.000086
36000.0	244.7	-47.9	-71.8	4.6**	378.5	584.4	285.7	33.8	1.000084
36500.0	239.2	-49.1	-74.3	3.6**	372.0	582.9	281.9	34.0	1.000083
37000.0	233.9	-50.2	-77.2	2.6**	365.6	581.3	279.2	34.7	1.000081
37500.0	228.7	-51.4	-80.9	1.7**	359.3	579.8	277.4	35.8	1.000080
38000.0	223.6	-52.6	-86.7	0.7**	353.1	578.3	275.8	37.2	1.000079
38500.0	218.5	-53.7	0.	0.0**	346.9	576.8	274.8	39.1	1.000077
39000.0	213.3	-54.7	0.	0.0**	340.2	575.5	273.8	41.1	1.000076
39500.0	208.3	-55.7	0.	0.0**	333.6	574.2	275.3	42.3	1.000074
40000.0	203.3	-56.6	0.	0.0**	327.2	572.9	277.0	43.4	1.000073
40500.0	198.5	-57.6	0.	0.0**	320.9	571.6	278.7	44.3	1.000071
41000.0	193.8	-58.6	0.	0.0**	314.8	570.3	280.5	44.9	1.000070
41500.0	189.2	-59.6	0.	0.0**	308.7	569.0	282.0	45.1	1.000069
42000.0	184.7	-60.5	0.	0.0**	302.6	567.8	283.4	44.4	1.000067
42500.0	180.2	-61.1	0.	0.0**	296.2	567.0	284.4	43.8	1.000066
43000.0	175.9	-61.8	0.	0.0**	289.9	566.1	283.0	42.9	1.000065
43500.0	171.6	-62.4	0.	0.0**	283.8	565.2	281.6	42.1	1.000063
44000.0	167.5	-63.1	0.	0.0**	277.7	564.4	280.0	40.3	1.000062
44500.0	163.4	-63.7	0.	0.0**	271.8	563.5	278.3	38.1	1.000061
45000.0	159.4	-64.1	0.	0.0**	265.6	563.0	277.2	36.0	1.000059
45500.0	155.4	-64.4	0.	0.0**	259.4	562.6	277.2	33.9	1.000058
46000.0	151.6	-64.7	0.	0.0**	253.4	562.2	277.0	31.8	1.000056
46500.0	147.9	-65.0	0.	0.0**	247.5	561.8	275.8	29.4	1.000055
47000.0	144.2	-65.3	0.	0.0**	241.7	561.4	274.5	26.9	1.000054
47500.0	140.7	-65.6	0.	0.0**	236.1	561.0	272.9	26.3	1.000053
48000.0	137.2	-65.9	0.	0.0**	230.6	560.6	271.2	26.2	1.000051

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSL
4 SEPT. 68 0715 HRS MDT
ASCENSION NO. 114

UPPER AIR DATA
0312003905
S M R SITE

WSTM SITE COORDINATES
E 472.257 FEET
N 214.426 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
48500.0	133.8	-66.2	0.	-0. **	225.3	560.2	269.3	269.3	26.2	1.000050
49000.0	130.5	-66.5	0.	-0. **	220.0	559.8	267.3	267.3	26.4	1.000049
49500.0	127.3	-66.8	0.	-0. **	214.9	559.4	265.9	265.9	26.7	1.000048
50000.0	124.2	-67.1	0.	-0. **	209.9	558.9	267.3	267.3	27.6	1.000047
50500.0	121.1	-67.4	0.	-0. **	205.1	558.5	268.8	268.8	28.5	1.000046
51000.0	118.1	-67.4	0.	-0. **	200.0	558.5	273.0	273.0	27.2	1.000045
51500.0	115.2	-66.8	0.	-0. **	194.5	559.3	277.7	277.7	25.5	1.000043
52000.0	112.3	-66.2	0.	-0. **	189.1	560.2	280.1	280.1	23.5	1.000042
52500.0	109.6	-64.6	0.	-0. **	183.0	562.4	281.4	281.4	21.4	1.000041
53000.0	106.9	-63.2	0.	-0. **	177.4	564.2	283.4	283.4	19.9	1.000040
53500.0	104.3	-63.4	0.	-0. **	173.2	563.9	286.0	286.0	18.8	1.000039
54000.0	101.7	-63.6	0.	-0. **	159.2	563.6	284.7	284.7	18.0	1.000038
54500.0	99.3	-63.6	0.	-0. **	155.0	563.7	280.0	280.0	17.5	1.000037
55000.0	96.9	-62.7	0.	-0. **	150.4	564.8	275.1	275.1	17.2	1.000036
55500.0	94.5	-61.9	0.	-0. **	155.9	565.9	270.3	270.3	17.6	1.000035
56000.0	92.2	-61.3	0.	-0. **	151.7	566.7	265.5	265.5	18.0	1.000034
56500.0	90.0	-61.1	0.	-0. **	147.9	567.0	260.1	260.1	17.5	1.000033
57000.0	87.8	-60.8	0.	-0. **	144.1	567.4	254.6	254.6	16.8	1.000032
57500.0	85.7	-60.6	0.	-0. **	140.5	567.7	252.9	252.9	16.0	1.000031
58000.0	83.7	-60.4	0.	-0. **	137.0	568.0	253.8	253.8	14.8	1.000031
58500.0	81.6	-60.1	0.	-0. **	133.5	568.3	254.8	254.8	13.3	1.000030
59000.0	79.7	-59.9	0.	-0. **	130.2	568.6	255.8	255.8	10.0	1.000029
59500.0	77.8	-59.1	0.	-0. **	126.6	569.7	256.8	256.8	6.8	1.000028
60000.0	75.9	-57.9	0.	-0. **	122.9	571.3	216.2	216.2	6.2	1.000027
60500.0	74.1	-56.7	0.	-0. **	119.4	572.8	167.7	167.7	6.2	1.000027
61000.0	72.4	-56.1	0.	-0. **	116.2	573.7	140.8	140.8	7.3	1.000026
61500.0	70.7	-56.3	0.	-0. **	113.5	573.4	139.9	139.9	9.7	1.000025
62000.0	69.0	-54.5	0.	-0. **	111.0	573.1	139.2	139.2	12.0	1.000025
62500.0	67.4	-56.8	0.	-0. **	108.5	572.8	140.1	140.1	12.8	1.000024
63000.0	65.8	-57.0	0.	-0. **	106.0	572.5	141.1	141.1	13.7	1.000024

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSL
4 SEPT.68 0715 HRS MDT
ASCENSION NO. 114

UPPER AIR DATA
0312003905
S M R SITE

WSTM SITE COORDINATES
E 472.257 FEET
N 214.426 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	64.2	-57.2	0.	-0. **	103.6	572.2		146.7	12.2	1.000023
64000.0	62.7	-57.4	0.	-0. **	101.2	571.9		154.4	9.7	1.000023
64500.0	61.2	-57.7	0.	-0. **	99.0	571.6		155.8	7.4	1.000022
65000.0	59.8	-57.9	0.	-0. **	96.7	571.3		143.2	5.4	1.000022
65500.0	58.3	-58.1	0.	-0. **	94.5	571.0		130.6	3.4	1.000021
66000.0	57.0	-58.3	0.	-0. **	92.4	570.7		119.0	4.6	1.000021
66500.0	55.6	-58.0	0.	-0. **	90.1	571.2		107.5	6.0	1.000020
67000.0	54.3	-56.2	0.	-0. **	87.2	573.5		104.0	7.8	1.000019
67500.0	53.0	-54.4	0.	-0. **	84.5	575.9		106.4	10.0	1.000019
68000.0	51.8	-54.8	0.	-0. **	82.6	575.4		109.3	11.8	1.000018
68500.0	50.6	-55.1	0.	-0. **	80.8	574.9		114.2	12.0	1.000018
69000.0	49.4	-55.5	0.	-0. **	79.1	574.4		114.0	12.3	1.000018
69500.0	48.2	-55.9	0.	-0. **	77.3	573.9		119.7	11.7	1.000017
70000.0	47.1	-56.3	0.	-0. **	75.7	573.4		115.1	10.0	1.000017
70500.0	46.0	-56.0	0.	-0. **	73.8	573.7		110.5	8.3	1.000016
71000.0	44.9	-55.7	0.	-0. **	72.0	574.1		103.9	6.9	1.000016
71500.0	43.9	-55.4	0.	-0. **	70.3	574.5		90.0	6.8	1.000016
72000.0	42.9	-55.2	0.	-0. **	68.5	574.9		76.2	6.7	1.000015
72500.0	41.9	-54.9	0.	-0. **	66.9	575.3		62.3	6.6	1.000015
73000.0	40.9	-54.6	0.	-0. **	65.2	575.7		60.1	7.4	1.000015
73500.0	40.0	-54.3	0.	-0. **	63.6	576.1		59.8	8.5	1.000014
74000.0	39.1	-54.0	0.	-0. **	62.1	576.5		59.4	9.5	1.000014
74500.0	38.1	-53.7	0.	-0. **	60.6	576.8		60.6	10.4	1.000013
75000.0	37.3	-53.4	0.	-0. **	59.1	577.2		63.1	11.4	1.000013
75500.0	36.4	-53.1	0.	-0. **	57.6	577.6		65.6	12.3	1.000013
76000.0	35.6	-52.8	0.	-0. **	56.2	578.0		67.9	13.5	1.000013
76500.0	34.7	-52.5	0.	-0. **	54.9	578.4		69.1	15.3	1.000012
77000.0	33.9	-52.2	0.	-0. **	53.5	578.8		70.3	17.2	1.000012
77500.0	33.2	-51.9	0.	-0. **	52.2	579.1		71.6	19.1	1.000012
78000.0	32.4	-51.6	0.	-0. **	50.9	579.5		72.7	19.9	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSL
4 SEPT.68 0715 HRS MDT
ASCENSION NO. 114

UPPER AIR DATA
0312003905
S M R SITE

WSTM SITE COORDINATES
E 472,257 FEET
N 214,426 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOJND		DIRECTION DEGR1 S(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS		SPEED	KNOTS	
78500.0	31.6	-51.3	0.	-0. **	49.7	579.9		73.7	20.6		1.000011
79000.0	30.9	-51.1	0.	-0. **	48.5	580.3		74.8	21.2		1.000011
79500.0	30.2	-50.8	0.	-0. **	47.3	580.7		76.8	21.7		1.000011
80000.0	29.5	-50.5	0.	-0. **	46.1	581.1		79.6	22.0		1.000010
80500.0	28.8	-50.2	0.	-0. **	45.0	581.4		82.3	22.2		1.000010
81000.0	28.1	-49.9	0.	-0. **	43.9	581.8		84.5	22.0		1.000010
81500.0	27.5	-49.6	0.	-0. **	42.8	582.2		85.3	20.8		1.000010
82000.0	26.9	-49.3	0.	-0. **	41.8	582.6		86.1	19.6		1.000009
82500.0	26.2	-49.0	0.	-0. **	40.8	583.0		86.9	18.5		1.000009
83000.0	25.6	-48.7	0.	-0. **	39.8	583.3		88.0	18.4		1.000009
83500.0	25.0	-48.4	0.	-0. **	38.8	583.7		89.1	18.3		1.000009
84000.0	24.5	-48.2	0.	-0. **	37.9	584.0		90.2	18.2		1.000008
84500.0	23.9	-48.0	0.	-0. **	37.0	584.2		88.2	17.7		1.000008
85000.0	23.4	-47.8	0.	-0. **	36.2	584.5		85.9	17.2		1.000008
85500.0	22.9	-47.6	0.	-0. **	35.3	584.8		83.6	16.7		1.000008
86000.0	22.3	-47.4	0.	-0. **	34.5	585.0		84.0	16.9		1.000008
86500.0	21.8	-47.2	0.	-0. **	33.7	585.3		85.6	17.5		1.000007
87000.0	21.4	-47.0	0.	-0. **	32.9	585.5		87.3	18.1		1.000007
87500.0	20.9	-46.8	0.	-0. **	32.1	585.8		88.2	18.7		1.000007
88000.0	20.4	-46.6	0.	-0. **	31.4	586.0		87.7	19.0		1.000007
88500.0	20.0	-46.4	0.	-0. **	30.7	586.3		87.3	19.4		1.000007
89000.0	19.5	-46.2	0.	-0. **	29.9	586.6		86.6	20.0		1.000007
89500.0	19.1	-46.0	0.	-0. **	29.2	586.8		84.2	21.5		1.000007
90000.0	18.6	-45.8	0.	-0. **	28.6	587.1		81.7	23.0		1.000006
90500.0	18.2	-45.6	0.	-0. **	27.9	587.3		79.3	24.5		1.000006
91000.0	17.8	-45.4	0.	-0. **	27.3	587.6		77.3	25.5		1.000006
91500.0	17.4	-45.2	0.	-0. **	26.6	587.8		75.4	26.5		1.000006
92000.0	17.0	-45.0	0.	-0. **	26.0	588.1		73.5	27.4		1.000006
92500.0	16.6	-44.8	0.	-0. **	25.4	588.4		72.7	28.3		1.000006
93000.0	16.3	-44.6	0.	-0. **	24.8	588.6		72.7	29.1		1.000006

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSL
4 SEPT. 68 0715 HRS MDT
ASCENSION NO. 114

UPPER AIR DATA
0312003905
S M R SITE

WSTM SITE COORDINATES
E 472.257 FEET
N 214.426 FEET

TABLE X (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS			
93500.0	15.9	-44.4	0.	-0. **	24.2	588.9		72.8	30.0	1.000005
94000.0	15.5	-44.2	0.	-0. **	23.7	589.1		73.1	30.7	1.000005
94500.0	15.2	-44.0	0.	-0. **	23.1	589.4		76.6	30.4	1.000005
95000.0	14.9	-43.8	0.	-0. **	22.6	589.6		80.2	30.0	1.000005
95500.0	14.5	-43.6	0.	-0. **	22.0	589.9		83.7	29.6	1.000005
96000.0	14.2	-43.4	0.	-0. **	21.5	590.1		86.4	29.6	1.000005
96500.0	13.9	-43.2	0.	-0. **	21.0	590.4		87.6	30.0	1.000005
97000.0	13.6	-43.0	0.	-0. **	20.5	590.7		88.9	30.4	1.000005
97500.0	13.3	-42.8	0.	-0. **	20.1	590.9		90.2	30.8	1.000004
98000.0	13.0	-42.6	0.	-0. **	19.6	591.2		90.7	30.6	1.000004
98500.0	12.7	-42.4	0.	-0. **	19.2	591.5		90.5	30.0	1.000004
99000.0	12.4	-42.2	0.	-0. **	18.7	591.8		90.3	29.3	1.000004
100000.0	12.1	-41.9	0.	-0. **	18.3	592.1		90.2	28.6	1.000004
100500.0	11.9	-41.7	0.	-0. **	17.9	592.4		88.6	27.9	1.000004
101000.0	11.6	-41.5	0.	-0. **	17.5	592.6		86.5	27.3	1.000004
101500.0	11.4	-41.3	0.	-0. **	17.1	592.9		84.4	26.6	1.000004
102000.0	11.1	-41.0	0.	-0. **	16.7	593.2		82.3	25.9	1.000004
102500.0	10.9	-40.8	0.	-0. **	16.3	593.5		80.6	26.0	1.000004
103000.0	10.6	-40.6	0.	-0. **	15.9	593.8		78.9	26.1	1.000004
103500.0	10.4	-40.4	0.	-0. **	15.5	594.1		77.2	26.2	1.000003
104000.0	10.2	-40.2	0.	-0. **	15.2	594.4				1.000003
104500.0	9.9	-39.9	0.	-0. **	14.8	594.6				1.000003
105000.0	9.7	-39.7	0.	-0. **	14.5	594.9				1.000003
105500.0	9.5	-39.4	0.	-0. **	14.2	595.3				1.000003
106000.0	9.3	-39.2	0.	-0. **	13.9	595.6				1.000003
106500.0	9.1	-39.0	0.	-0. **	13.5	595.9				1.000003
106500.0	8.9	-38.7	0.	-0. **	13.2	596.2				1.000003

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3999.0 FEET MSL
4 SEPT.68 0715 HRS NDT
ASCENSION NO. 114

MANDATORY LEVELS
0312003905
S M R SITE

WSTM SITE COORDINATES
E 472.257 FEET
N 214.426 FEET

TABLE XI

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4916.	21.6	6.9	38.	332.4	3.7
800.0	6630.	18.1	4.3	40.	358.6	3.3
750.0	8432.	14.4	1.4	41.	23.3	3.3
700.0	10331.	10.4	-1.7	43.	283.7	1.9
650.0	12337.	4.9	-3.3	56.	226.5	4.1
600.0	14463.	0.8	-21.6	17.	235.4	8.0
550.0	16737.	-3.4	-25.5	16.	276.4	8.3
500.0	19188.	-8.0	-29.7	15.	296.7	11.9
450.0	21848.	-13.2	-34.5	15.	266.6	13.8
400.0	24751.	-20.3	-40.3	15.	273.9	18.3
350.0	27942.	-28.7	-46.5	16.	286.5	21.5
300.0	31497.	-37.4	-55.5	13.**	286.0	32.2
250.0	35545.	-46.8	-69.7	6.**	288.7	33.6
200.0	40280.	-57.3	0.	-0.**	278.2	44.1
175.0	43017.	-61.9	0.	-0.**	282.7	42.8
150.0	46121.	-64.8	0.	-0.**	276.5	30.7
125.0	49752.	-67.0	0.	-0.**	266.9	27.4
100.0	54206.	-63.8	0.	-0.**	281.4	17.6
80.0	58749.	-59.9	0.	-0.**	255.6	10.6
70.0	61515.	-56.4	0.	-0.**	139.6	10.7
60.0	64716.	-57.8	0.	-0.**	145.3	5.7
50.0	68510.	-55.3	0.	-0.**	116.4	12.2
40.0	73178.	-54.3	0.	-0.**	59.8	8.3
30.0	79279.	-50.7	0.	-0.**	77.2	21.7
25.0	83197.	-48.4	0.	-0.**	89.2	18.3
20.0	88037.	-46.4	0.	-0.**	87.4	19.4
15.0	94340.	-43.9	0.	-0.**	78.5	30.2
10.0	103346.	-40.0	0.	-0.**		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

RELEASE TIME (MDT)		SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND								AZI- MUTH (DEG- REES)	THEORETICAL IMPACT FROM LAUNCHER (IN MILES)		
		11-216 FT		216-4000 FT		4000-7331 FT		TOTAL					
		N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W				
RAWIN- SONDE	PIBAL											RANGE	N-S
0515	0600	0.9S	0.2E	1.5N	3.3W	2.8N	17.0W	3.4N	20.2W	353.0	66.9	66.5N	8.1W
0515	0630	0.9S	0.2E	2.8N	3.9W	2.8N	17.0W	4.7N	20.8W	352.7	68.3	67.8N	8.7W
0515	0700	1.4S	0.9E	4.1N	0.6E	2.8N	17.0W	5.4N	15.6W	357.1	68.8	68.5N	3.5W
0515	0715	0.3S	0.0	4.6N	1.0E	2.8N	17.0W	7.1N	16.0	356.8	70.3	70.2N	3.9W
0515	0730	1.0S	0.8E	4.2N	0.8E	2.8N	17.0W	6.6N	15.4W	357.3	70.1	69.7N	3.3W
0515	0745	0.9S	0.7E	4.1N	1.6W	2.8N	17.0W	6.1N	17.9W	355.3	69.6	69.2N	5.8W
0515	0751	0.0	0.0	4.3N	0.8E	2.8N	17.0W	7.1N	16.3W	356.6	70.5	70.2N	4.2W
0715	0805	0.3N	1.5E	5.4N	0.6E	2.8N	18.4W	8.5N	16.3W	356.6	71.9	71.6N	4.2W

AZI- MUTH (DEG- REES)	MILES FROM LAUNCHER		
	RANGE	N-S	E-W
LAUNCHER SETTING (ELEVATION 85.5 DEGREES QE)	65.4	63.1N	17.1E
NO WIND IMPACT	64.2	63.1N	12.1E
PREDICTED SECOND-STAGE IMPACT	70.0	69.9N	3.1W
SECOND-STAGE IMPACT, RADAR TRACK	83.7	82.2N	15.5W
PREDICTED BOOSTER IMPACT	0.9	0.8N	0.3E
ACTUAL BOOSTER IMPACT	N/A	N/A	N/A

TABLE XII. IMPACT PREDICTION DATA
NIKE-HYDAC STV, SR-072

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D .

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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13. ABSTRACT * Meteorological data gathered for the launching of Nike-Hydac STV, SR-072, are presented for the Space and Missile Systems Organization and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.			

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14.	KEY WORDS	LINK A		LINK B		LINK C	
		ROLE	WT	ROLE	WT	ROLE	WT
	1. Ballistics 2. Meteorology 3. Wind						

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